

6 Urology

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 الأنعام ١٥، ١٦

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■ Symptoms

Pain:

- May be located over the site of pathology e.g. testes
- May radiate:

Kidney pain	In the renal angle (between the lower border of the 12 th rib and the spine)
Ureteric pain	Between the renal angle and the groin
Bladder pain	In the supra-pubic region
Prostatic pain	In the perineum but may radiate along the urethra to the tip of the penis
Suprapubic pain	Is exacerbated by bladder filling

1. Urinary incontinence

- Affects **women more commonly than men**
- The loss of voluntary control of bladder emptying
- Patients may hesitate to talk about this to **avoid the phrase (wetting yourself)**
- You should ask about it immediately after asking about urgency:

"Do you ever feel the desperate need to empty your bladder?"

"Have you ever not made it in time?" or by asking about "Loss of control"

- **"True"**: total lack of control: suggest a **fistula** between the urinary tract and the exterior or a neurological condition.
- **Stress incontinence**
 - Leakage that occurs at times of increased intra-vesical pressure e.g. **during coughing, sneezing, lifting, laughing**

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Urrology (Page 2)

- Results from incompetence of urethral sphincter and bladder neck mechanism. **Usually related to pregnancy and child birth.**
- **Urge incontinence**
 - Urine leakage that occurs in association with a strong desire to void
 - Urine leaks from the bladder before the patient is able to reach a toilet
 - **Causes** include over activity of the detrusor muscle, urinary infection, bladder stones and bladder cancer
 - Stress and urge incontinence frequently coexist
 - **Dribbling or overflow**: continual loss of urine from a chronically distended bladder typically in elderly men with prostate disease.
- **Insensible urine leakage**:
 - Occurs without any associated symptoms.
 - Urine **leaks from the bladder continuously and the patient is sometimes unaware.**
 - **Causes**: overflow incontinence from chronic retention, fistulation (commonly between bladder and vagina), and gross sphincter disturbance resulting from surgery or neurological disease.

2. Urinary frequency

- This is the passage of urine more often than normal for the patient
- Ask: **How many times a day?**
- Ask about the **volume of urine passed each time** (you are attempting to decide whether the patient is producing more urine than normal or simply feeling the urge to urinate more than normal)

3. Urgency

- It is the **sudden need to urinate**: a feeling that the patient may not be able to make it to the toilet in time
- Ask about expelled amount?

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Urrology (Page 3)

4. Nocturia

- Urination during night
- Does the patient wake from sleep to urinate?
- How many times at night?
- How much urine is expelled each time?

5. Terminal dribbling

- A **male complaint** & usually indicate of **prostate disease**
- This is a dribbling of urine from the urethra **at the end of micturition**
- Requiring an abnormally protracted **shake of the penis** and may cause embossing staining of the clothes.

6. Hesitancy

- Difficulty in **starting** to micturate.
- The patient describes standing and **waiting for the urine** to start flowing
- Usually d.t bladder outflow **obstruction** d.t prostatic dse or strictures.

7. Dysuria

- **"Pain on micturition"** usually is described by the patient as **"burning"** & felt at the **meatus**

8. Incomplete emptying

- This is the sensation that **there is more urine left to expel** at the end of micturition
- Suggests **detrusor dysfunction** or **prostatic disease**

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9. Intermittency

- The disruption of urine flow in a stop-start manner
- Causes include:** prostatic hypertrophy, bladder stones and ureterocolic

10. Oliguria and Anuria

Oliguria is the excretion of < 300mL urine in 24 hours
Causes can be physiological (dehydration) or pathological (intrinsic renal disease, shock or obstruction)

Anuria is the absence of urine formation

Causes: severe intrinsic renal dysfunction, shock, urinary tract obstruction (ureteric obstruction)

11. Polyuria

- It is the excessive excretion of large volume of urine and must be carefully differentiated from urinary frequency (the frequent passage of small amounts of urine)
- Some causes:**
 - Ingestion of large volume of water (including hysterical polydipsia)
 - DM
 - Diabetes insipidus (failure of the action of ADH at the renal tubules)
 - Chronic renal failure
- Remember to ask the patient about the use of diuretics

13. Male sexual dysfunction:

■ Erectile dysfunction (ED)

- Commonly known as "impotence"
- Inability to attain and maintain an erection adequate for satisfactory sexual intercourse.
- Men with incomplete ED respond more satisfactorily to treatment.
- The majority of cases have an organic basis.
- All cases have a degree of psychogenic involvement.
- 20 % of cases are primarily psychogenic

■ Premature ejaculation

- More common in younger men
- Has a psychogenic basis
- Often associated with performance anxiety

■ Loss of libido

- loss of normal sex drive
- either psychogenic or related to hypogonadal states

14. Haemospermia

- Presence of blood in ejaculate
- Rarely associated with significant pathology

■ References

- Oxford handbook of clinical surgery p334, 335
- Oxford handbook of clinical examination & practical skills p236, 237

1. Urinary retention D&T

- Retention means: not emptying the bladder (obstruction or ↓ detrusor power), "painful inability to pass urine"

■ Causes: (Acute)

- Prostatic enlargement (BPH/cancer): often acute or chronic
- Post-urological surgery e.g. post TURP, clot impaction
- Bladder or urethral stone impaction
- Pressure on bladder e.g. late pregnancy, faecal impaction
- UTI
- Alcohol intoxication
- Anti-cholinergic side effects of many drugs / sympathomimetics / anaesthetic drugs
- Urethral rupture following trauma.

■ Presentation

- Supra-pubic pain**, inability to pass urine despite desire.
- The bladder is usually tender, containing about 600 ml of urine.
- May dribble urine in small volumes especially if there is underlying chronic retention
- On examination:**
 - Tender bladder, dullness on percussion
 - Prostatic enlargement on PR examination / also assess anal tone by PR
 - Check lower limb power / reflexes and perineal sensation

■ Treatment

- Give analgesia
- A warm bath may aid micturition in drug-induced retention
- in acute retention urgent bladder decompression is required by
 - Urethral Catheterization if not CI (Urethral trauma or stones), or
 - Suprapubic catheterization
- Document initial urine volume passed after catheterization large volumes suggest underlying chronic retention
- Further management:**
 - Send MSU for culture and sensitivity test
 - Test urine for blood

2. Chronic retention S&K

- Bladder capacity may be > 1.5L.
- Presentation**
 - Overflow incontinence
 - Acute or chronic retention

- Lower abdominal mass
- UTI
- Renal failure (in the form of bilateral obstructive uropathy)

N.B. Post-obstructive diuresis

- In the acute phase after relief of the obstruction, the kidneys produce a lot of urine (as much as a liter) in the first hour
- It is vital to provide resuscitation fluids

Checks to aid voiding (micturition)

- Privacy on hospital ward
- Standing to void
- Voiding to the sound of running taps
- Voiding in a hot bath

References

- Oxford handbook of clinical surgery p 366, 37
- Oxford handbook of emergency medicine p 518, 519
- OHCM p 602, 603

3. Urinary tract infection (UTI) D&T

- The main organism is E.coli
- More common in women
- Includes: urethritis, cystitis, prostatitis & pyelonephritis

■ Symptoms

Cystitis: Frequency, dysuria, urgency, haematuria, suprapubic pain

Acute pyelonephritis: high fever, rigors, vomiting, loin pain, loin tenderness, oliguria (if acute renal failure)

Prostatitis: flu-like symptoms, low backache, few urinary symptoms, swollen or tender prostate on PR.

■ Signs:

- Fever
- Abdominal or loin tenderness
- Occasionally distended bladder
- Enlarged prostate on PR
- Foul-smelling urine

Up to 1/2 of all non pregnant women with symptoms of lower UTI have no detectable bacterial infection so drug ttt is often unnecessary.

Investigations

- Dipstick urine and start empirical ttt if nitrites or leucocytes are positive
- Must show WBC of $50/\text{mm}^3$ & 10^5 organisms/ml.
- Consider US, IVU or cystoscopy in men, children if failure to respond to ttt.

Treatment:

1. Drink plenty of fluids, urinate often "don't hold on"

2. Females with simple UTI

Give Trimethoprim 200mg
Or Amoxicillin 250mg 1x3 for 3 days

R/SEPTIN 1X2
R/AMOXIL 250 1X3X3

3. Children > 12, men, women with clinical evidence of renal impairment

Give Amoxicillin 250mg 1x3x7-10 days

R/AMOXIL 250 1X3X7

4. Cystitis:

Trimethoprim 200mg 1x2 (3 days course in female and 7 days in male)

R/SEPTIN 1X2X3 OR 1X2X7

Alternatives:

- Cephalexin 1g 1x2
- Ciprofloxacin 500
- Co-amoxiclav (7 days)

R/CEPROX 16M 1X2
R/CIPROFAR 1X2X7
R/AUGMENTIN 625 1X3X7

5. Acute Pyelonephritis:

Give Cefuroxime 1.5gm/8hr IV then oral x 7 days course

R/CEFAXONE 1000,500 M6 VIAL 1X3

6. Prostatitis:

Ciprofloxacin 500mg / 12hr PO for about 4 weeks
Or Trimethoprim 200mg / 12 hr for 4 weeks

R/CIPROFAR 500 1X2X28
R/SEPTIN 1X2X28

7. Management of recurrent UTI in women:

Discuss if appropriate:

- Increasing fluid intake
- Urinating more frequently.
- Using a lubricant with intercourse.
- Improving perineal hygiene.
- Avoiding tight clothing.
- Avoiding scented soap, bubble bath, etc.
- Contraception (diaphragm may encourage UTIs)

Further investigations

1. Creatinine & electrolytes, fasting blood sugar
2. Plain abdominal X-ray (to look for radio-opaque stones) followed by an ultrasound scan of the urinary tract or an IVU to exclude renal cortical scars from previous infections or evidence of obstruction.
3. If these investigations are normal, consider giving prophylactic antibiotics. 1/4 of the usual 24 hours dose should be given

Treatment

1. Give Trimethoprim 100 mg at night (refer to urology before starting on this regimen)
R/SEPTIN 1X1
2. Patients whose UTIs are clearly related to intercourse may take a single dose of AB within 2 hours of intercourse
Give Nitrofurantoin 50mg (R/UVAMIN RETARD 50M6)

4. Urinary Stones

Key Facts:

- Peak incidence at 20-50 yrs
- Male > Female = 3:1
- More common in summer
- Calcium oxalates: 75%
- 90 % of urinary calculi are Radio-opaque

Clinical features

- Ureteric Renal colic: "severe, intermittent, stabbing pain radiating from loin to groin"
- Haematuria "usually microscopic"
- Systemic symptoms such as: nausea, vomiting, tachycardia, pyrexia.
- Loin or renal angle tenderness.
- Iliac fossa tenderness if the stones have passed into the distal ureter.
- Bladder or ureteric stones can cause pain on micturition
- Infection: coexists with renal stones presenting with

- Cystitis: frequency, dysuria
- Pyelonephritis: Fever, rigors, loin pain, nausea, vomiting
- Pyonephrosis: infected hydronephrosis

Investigations

1. Basic tests:
 - Raised WCC & CPR suggest superadded infection (should be confirmed by MSU)
 - Raised creatinine suggests renal impairment
 - Stones are visible on plane X-ray (KUB)
 - Serum Ca^{2+} , phosphate and uric acid
 - 24 urine for Ca^{2+} , phosphate, oxalate, urate, cystine and xanthine.

Urgent: Dipstick urine for blood

Advanced tests

- Non-contrast spiral CT
- Renal U/S for hydronephrosis

Management:

- Most patients improve spontaneously without intervention due to spontaneous passing of the stone.

1. Give prompt analgesia, diclofenac 75mg IM.
R/OLFEN AMP 1M THEN R/OLFEN 100 SR 1X3
2. Give antiemetic: metoclopramide 10mg.
R/PRIMPERAN AMP IV
3. If infection give
R/CEFAXONE 1000, 500MG VIAL IV OR IMIX2
Sieve urine to catch stone(s) for analysis
4. Give R/EPIMAG EFF. (FOR Ca^{2+} OXALATE STONES)
تجنب تناول منتجات الألبان ومنتجاتها ومنتجات الألبان ومنتجاتها ومنتجات الألبان ومنتجاتها
5. Give R/URSOLVINE EFF. (FOR URATE STONES) 1X3
6. For expelling small stones Give R/COLORINAL EFF. 1X3

Procedures

1. ESWL: extracorporeal shockwave lithotripsy
2. PCNL: percutaneous nephrolithotomy
3. Endoscopic treatment
4. Open surgery

Referral:

- Ureteric colic that does not resolve within 24 hours.
- No access to imaging procedures.
- Obstruction on IVU.
- Large calculi which can't be passed spontaneously.
- Reduced renal function.
- Infection.

Tip

Patients with first time stones who do not need urgent admission should be referred to the urologist.

Prevention of recurrence:

- Drink plenty of fluids especially in the summer or hot weather (aim for 2-3L/day of colourless urine).
- Don't increase calcium intake. A normal calcium intake is now recommended as low Ca^{2+} diets increase oxalate excretion

Specific prevention

1. **Oxalate:** ↓ Oxalate intake (less tea, chocolate, nuts, strawberries, rhubarb, spinach, beans, beetroot)
Pyridoxine (vit. B6) may be used.
R/NEUROBION CAP. IXI (MULTIVITAMINS)

2. **Urate:** Allopurinol (100-300 mg/24h PO) to ↓ uric acid
• **R/ZYLORIC OR NO-URIC (100 OR 300) IXI**
• Urine alkalinization by sodium bicarbonate.

3. **Cystine:** vigorous hydration to keep urine output > 3L / day
Note: Some causes of urinary stones:

1. Hyperparathyroidism
2. Hypervitaminosis D
3. Infection
4. Idiopathic hypercalcaemia

5. Impaired urinary drainage e.g. pelvi-ureteric obstruction, ureteric obstruction, extrinsic obstruction

References

1. OHCM: p284, 285
2. Oxford handbook of clinical surgery: p338, 339
3. GP: p66, 67

5. Proteinuria

- Total protein excretion is usually < 50mg/24 hrs of which albumin alone is < 30mg/24 hrs
- Abnormal proteinuria is regarded as > 150mg/24hrs
- A trace of proteinuria on dipstick in the absence of microscopic haematuria is rarely always benign

Causes:**1. Renal causes**

- UTI
- Glomerulonephritis

- DM
- Myeloma
- Amyloid

2. Non-renal causes:

- Fever
- Exercise
- Pregnancy
- CCF

- Vaginal mucus
- Recent ejaculation
- Orthostatic proteinuria (postural)
- Hypertension

- Exclude fever or recent exercise
- Dipstick urine for nitrite, leucocytes and blood
- MSU for culture and sensitivity
- Check BP
- Serum creatinine and electrolytes
- Fasting blood sugar
- 24 hr urine collection for total protein excretion (150mg of protein/24 hrs is the upper limit of normal, < 30mg/d of albumin)

Orthostatic proteinuria
• It is proteinuria < 1g/L which disappears when lying supine
• Characteristically found in healthy young subjects in whom protein is not detected in the first urine passed after sleeping overnight (evening) but is present during the day.
Reference: McLeod's p224

Tip

A patient with persistent proteinuria (i.e. dipstick positive for protein recorded on 3 separate urine samples, including an early morning urine) with or without microscopic haematuria, **should be referred to a nephrologist** for renal imaging and biopsy.

References

1. OHCM p278
2. GP: p66

6. Urinary incontinence *54%*

- **Def:** Involuntary leakage of urine.
- 60% of the elderly.
- 40% of women over the age of 20 suffer from some form of urinary incontinence.
- Urge incontinence and stress incontinence are responsible for over 90% of cases of incontinence

History

- Ask about type of incontinence (see symptoms)
- **General questions:** Ask about
• **Dysuria** (suggestive of UTI, atrophic vaginitis or obstruction)
- Liquid intake (alcohol and coffee are diuretics)
- Drugs e.g. diuretics, antidepressants
- The use of pads or towels
- Past history e.g. stroke, dementia, parkinson's disease
- Multiple sclerosis, prolapsed disc, spinal injury, previous pelvic surgery, obstetric hx.

Examination

- (abdominal, PR & PV): Look for constipation, faecal impaction.
- Palpable bladder (over flow incontinence).
- Pelvic masses e.g. **Fibroids**.
- Other "Local" lumps e.g. Large inguinal hernia.
- Atrophic vaginitis.
- **Enlarged prostate (in men).**
- Tight foreskin (in men).
- Assess the pelvic floor muscle by asking the patient to pull up the pelvic floor while you are performing a pelvic examination.

Investigations

- Dipstick urine for blood, sugar (DM ??), protein, nitrite & leucocytes.
- MSU for microscopy culture and sensitivity (UTI??)
- Serum creatinine and electrolytes and fasting BS (DM??)
- A urinary documentation of frequency and volume of urine passed and drinks taken can be helpful

Management

1. **Stress incontinence (due to weakness of the urethral sphincter)**

- Encourage **reduction of intra-abdominal pressure** by:

- Reducing weight.
- Stopping smoking.
- Avoiding constipation.
- Avoiding heavy lifting.
- Regular **pelvic floor exercises**: (i.e. repetitive squeezing of the pelvic floor) improve tone and support.
- Tighten the front (bladder) and back (bowel) passages.

- Count to 4 slowly then release slowly
- Do this several times and repeat every hour or so if possible.
- These exercises should ideally be continued for life
- **Treat atrophic vaginitis** with local estrogen cream (estriol 0.1% cream) **R/OVESTIN CREAM IXIXI**
- Refer for treatment of uterine prolapse and urodynamic investigations or surgery.

2. Urge incontinence (due to detrusor instability)

- Encourage the patient to **void increasingly larger volumes** of urine at less frequent intervals thus relearning inhibition of abnormal detrusor muscle contractions
- Drugs can be used in addition to bladder retraining
- Give oxybutynon 2-5.5 mg 1x2
R/URIPAN 5MG IX3
- The patient may need psychological support

References

1. GP: p67-70
2. OHCM: p604, 605

7. Benign prostatic hyperplasia (BPH) *54%***Key facts**

- BPH is a **non-malignant enlargement** of the prostate with stromal and glandular components increase
- **Incidence:** 25% in 40-60 ys - 40% in over 60 ys

Clinical feature

- **Storage symptoms** such as frequency, urgency, & incontinence
- **Voiding symptoms** including hesitancy, poor stream, intermittency, terminal dribble & abdominal straining, incomplete emptying and chronic or acute retention of urine

Complications

- Haematuria
- UTI
- Stone formation

- Acute or chronic retention of urine
- Overflow incontinence
- Obstructive renal failure

■ Investigations

- **Exclude cancer** by PR, PSA, trans-rectal US ± biopsy
- **Note:** PSA before PR as PR ↑ PSA
- Serum creatinine, urine analysis.
- U/S (residual volume estimation, hydrophoresis).

■ Treatment

A. Medical treatment

1. wait and see is an option but risks are incontinence and renal failure
2. α-blockers: as doxazosin

R/CARDURA 1, 4 MG 1X1 OR 1X2 (1 MG)

يبدأ المريض بجرعة 1 مجم يوميا ثم تزداد حتى تصل بعد أنقص إلى 8 مجم يوميا

SE drowsiness, dizziness, depression, **hypotension** (especially postural), dry mouth, ejaculatory failure, extra-pyramidal signs, nasal congestion, weight#.

They are the drugs of choice.

3. 5-α reductase inhibitors: as finasteride 5 mg/day PO

R/PROSCAR 1X1

SE impotence, ↓ libido

Excreted in semen so warn to use condoms

Females should avoid handling crushed pills.

4. Combination of both drugs.

B. Surgical treatment

1. TURP: trans-urethral resection of the prostate: **the most common.**
2. TUIP: trans-urethral incision of the prostate.
3. Open retro-pubic prostatectomy
4. LASER prostatectomy

References

1. OHCM - P 602
2. Oxford handbook of clinical surgery: P 342,343

8. Prostatism D&R

- Prostatism or symptoms of outflow obstruction is **common** particularly in the **elderly**.

■ Diagnosis

- **History:** ask about:

- Poor urinary stream
- **Hesitancy**
- **Frequency**
- Nocturia
- **Terminal dribble**
- Bone pain which: raises the possibility of malignant bone secondaries

■ Examination

- The enlarged bladder of urinary retention.
- Enlargement of the prostate by PR (as a general rule the malignant prostate is **hard, craggy, irregular and often enlarged, with the central sulcus obliterated**)

■ Investigations

- MSU: to **exclude UTI** as a cause of frequency.
- Electrolyte & creatinine to **exclude obstructive uropathy**.
- Serum PSA: a level greater than 4.0 raises the possibility of malignancy but there are many false positive results.

■ Management

1. For frequency and nocturia give a **blocker** (relaxes smooth ms producing increase in urinary flow rate).
2. **Refer** to urology if you suspected malignancy, obstructive uropathy or symptoms resistant to treatment.

■ Screening of prostatic cancer by:

- Regular PR
- Trans-urethral US screening
- Serum PSA

References

1. General practice: P 70, 71

9. Erectile dysfunction D&R

Def: the inability to get or maintain an erection sufficient for the completion of sexual activity.

- It is distinct from premature, retrograde or delayed ejaculation.

■ Causes: include:

1. **Psychogenic:** anxiety, depression
2. **Drugs:** antihypertensives, tobacco, alcohol
3. **Vascular & Endocrine**
4. **Hypercholesterolaemia, DM, hyperthyroidism, hyperprolactinemia, hypogonadism**
5. **Neurological:** Parkinson's disease, spinal injury, neurological disease following pelvic surgery, pelvic fracture.
6. **Penile:** cavernitis, peyronie's disease.

- Presence of morning erection strongly suggests psychogenic cause.

- Lack of lower limb pulses suggests vascular cause.

■ Investigation & diagnosis

- Check blood **glucose** (DM?)
- **Lipids** (hypercholesterolaemia?)
- **TFTs** (hyperthyroidism?)
- **Serum electrolytes**
- **Hormone profiles** (testosterone, FSH/LH, prolactin)

■ Treatment

1. Life style advice:

Advise the patient to try to avoid stress & anxiety, stop smoking and alcohol & to discuss any problem of sexual dissatisfaction with his partner.

2. Oral phosphodiesterase-5 inhibitors e.g. Sildenafil (**VIAGRA**)

Tadalafil (**CIALIS**), Vardenafil (**LEVITRA**)

R/VIAGRA ~ 50 OR 100 TAB. (OR VIGOREX, VEGA)

قرص قبل الجماع بحوالى ساعة على معدة خاوية

■ Refer

- For psychosexual counseling
- To urologist for vaso-active injections, penile prostheses or vacuum devices

References

1. GP: P 74,75
2. Oxford handbook of clinical surgery: P 352

10. Premature ejaculation D&R

- **Very common** particularly in young men having their first sexual relationship.

■ History

- Ask whether the problem has been lifelong or of recent onset.
- Recent **anxiety, change** of partner or of sexual position/practice may be the cause.
- Successful tt is more likely if the man has discussed the problem with his wife.

■ Management

- The general principle of tt is to encourage the man to learn how it feels when he is about to ejaculate & stop the stimulation before reaching this point & resuming when the feeling has declined.
- Tell him to use **STOP/START OR SQUEEZE TECHNIQUE** (let the wife squeeze the glans penis herself).

■ Stop/Start technique

- When the man feels close to ejaculate; he should stop and relax for 30 seconds.
- If no improvement refer for psychosexual counseling.

References

1. GP: P 75
2. Oxford handbook of general practice p 747

11. Scrotal swelling D4R

The most common causes are:

- Epididymal cyst.
- Inguino-scrotal hernia.
- Hydrocele.
- A sebaceous cyst of the scrotal skin may be described as a scrotal swelling.
- Testicular tumors are rare.

Diagnosis

History

Ask about pain in the scrotum.

- The following are **painless**:
 - Inguino-scrotal hernia
 - Hydrocele
 - Epididymal cyst
- A history of trauma suggests secondary hydrocele or haematocele

Examination:

- Examine the patient standing.
- If palpation above the swelling is **impossible** it is an inguino-scrotal hernia.
- If palpation above the swelling is **possible** and the swelling is above the testicles; it is either an **epididymal cyst** or a **varicocele**.
 1. A varicocele feels like a **bag of worms**
 2. An epididymal cyst will trans-illuminate easily.
- A hydrocele is usually large and tense & trans-illuminates easily. The testicles can't be felt as it is within the hydrocele.
- A sebaceous cyst is **superficial & confined to the scrotal skin**.
- Testicular tumors cause enlargement of a testicle.
 - ▶ request a **scrotal US** scan if there is any doubt about diagnosis & to exclude testicular tumors.

Management

1. Sebaceous cyst : reassure
2. Hydrocele : if small : no action, if large : refer for aspiration
3. Other swellings : refer.

References:

1. GP : P 77,78
2. Oxford handbook of clinical surgery : P 346,347

13. Testicular pain D4R

The most common presentation of testicular pain in general practice is mild & transient & cause is often not found.

Diagnosis

History & examination

A. Severe pain in the testicles suggests torsion or acute epididymo-orchitis.

1. Testicular torsion

- **Peak age** : 12-18 ys (extremely rare above 25 ys)
- Sudden onset of moderate to severe **constant unilateral scrotal pain** often with nausea, vomiting and abdominal pain.
- The testicles are **globally tender**, high in the scrotum.
- **Absence of ipsilateral cremasteric reflex is the most reliable sign.**

2. Acute epididymo-orchitis

- **Common organisms** include: *Chlamydia trachomatis*, *Neisseria gonorrhoea* in the young (sexually transmitted infections)
- **1/3 of male adolescents with mumps develop orchitis** which is unilateral in 80% & 1/3 of these testes atrophy
- Gradual onset of pain (hours or days)
- Dysuria, urethral discharge & pyrexia are common.
- May be a recent hx of cystitis, prostatitis or prostatesctomy.

- Cremasteric reflex is preserved.
- **Prehn's sign** (relief of pain with scrotal elevation)
- There may be **red skin** over the infection & the most tender part is often to be above the testicles.
- In both torsion and epididymo-orchitis there may be scrotal swelling due to oedema or inflammation

B. Other possible causes of pain include :

- Ureteric calculi
- Inguino-scrotal hernia
- Groin strain
- Malignancy
- Psychological.

Management:

1. Acute severe testicular pain **should be referred immediately** for exploration (fear of torsion and testicular ischemia)
2. Mild pain where examination is normal give **R/BRUFEN 400** 1x3 & most cases resolve spontaneously.
3. If you suspect epididymo-orchitis take an MSU & urethral swab for gonococcus and chlamydia.
4. If you suspected STI give **R/CEFTRIAXONE 250 MG IM SINGLE DOSE + R/VIBRAMYCIN OR DOXY-R 100 1X2X7 DAYS PO** or refer to genitor-urinary medicine.
5. Give **R/CIPROFLOXACIN 500 1X2X10-14 DAYS** for UTI
6. Scrotal elevation, local ice therapy may help
7. Treatment of acute viral orchitis is symptomatic.

References:

1. GP : P 78,79
2. Oxford handbook of clinical surgery: P 368,369.

14. Sexually transmitted infection (STIs) S4R

- Chlamydia is the **most common STI** in men & is often **asymptomatic**.
- **Other STIs include**: Gonorrhea, Syphilis, HIV/AIDS, genital warts, herpes simplex and thrush.

Symptoms of Chlamydia:

- Pain on micturition.
- Urethral pain.
- Testicular pain.
- Joint pain (Reiter's syndrome)

Examination

Examination is usually normal. Look for other STIs:

- Genital warts
- Herpetic ulcers
- Urethral discharge
- Inguinal lymphadenopathy
- Candidal balanitis

Treatment

1. Treat contacts **empirically**
2. **Chlamydia** :
 R/DOXY-R 100 1X2X7 DAYS
 Or Azithromycin 1g single dose R/ZITHROMAX 500 2X1
3. **Other STI** : refer

References:

1. GP : P 76, 77.

Put in your mind

1. Urinary incontinence affects women than men.
2. Kidney pain: in the renal angle (between the lower border of th 12th rib and the spine).
3. Ureteric pain: between the renal angle and the groin.
4. Bladder pain: in the supra-pubic region.
5. Prostatic pain: in the perineum but may radiate along the urethra to the tip of the penis.
6. Supra-pubic pain is exacerbated by bladder filling.
7. Urge incontinence is due to over-activity of the detrusor ms.
8. Urgency is the sudden need to urinate.
9. Hesitancy is a difficulty in starting to micturate usually d.t bladder over-flow obstruction, prostatic dse or strictures.
10. Terminal dribbling usually indicates prostatic dse.
11. Haematuria is always an abnormal finding.
12. If haematuria is associated with painful voiding; it is usually d.t bladder infection or stones.

13. Incomplete emptying is the sensation that there is more urine left to expel at the end of micturition.
14. Incomplete emptying suggests detrusor dysfunction or prostatic dse.
15. Intermitency is the disruption of urine flow in a stop start manner.
16. Intermitency may be d.t. prostatic hypertrophy, bladder stones.
17. Oliguria is the excretion of < 500 ml urine in 24 hrs.
18. Anuria is the absence of urine formation.
19. Erectile (commonly known as impotence) is the inability to attain and maintain an erection adequate for satisfactory sexual intercourse.
20. Premature ejaculation is more common in younger men.
21. Retention means not emptying the bladder (obstruction or decrease of the detrusor power).
22. Retention of urine presents with inability to pass urine despite desire & the bladder is usually tender, containing about 500 ml of urine.
23. In chronic retention: bladder capacity may be > 1.5 L.
24. Post-obstructive diuresis: in the acute phase after relief of the obstruction, the kidneys produce a lot of urine (as much as a liter) in the first hour. So it is vital to provide resuscitation fluids.
25. Tricks to aid voiding (micturition): standing to void, voiding to the sound of running taps & voiding in a hot bath.
26. UTI is more common in women.
27. UTI includes cystitis, urethritis, prostatitis & pyelonephritis.
28. Up to 1% of non pregnant women have no detectable bacterial infection.
29. Trimethoprim is the drug of choice in ttt of UTI.
30. Urinary stones are more common in males than females (3:1).
31. Patients with first time stones who don't need urgent admission should be referred to the urologist.
32. New onset flank/back pain in the elderly may represent a leaking aortic aneurysm.
33. Spiral CT without contrast is the most accurate and preferred investigation for ureteric colic and stones.
34. Prostatism is symptoms of outflow obstruction and are common in the elderly.
35. Peyronie's due is ch' by presence of fibrous plaque in the shaft of the penis causing pain on erection.
36. The most common causes of scrotal swelling epididymal cyst, inguinoscrotal hernia and hydrocele.
37. Severe acute testicular pain suggests testicular torsion (should be referred immediately).
38. Testicular torsion: peak age 12-18 ys (extremely rare > 25 ys)

39. 1/3 of male adolescents with mumps develop orchitis which is unilateral in 80% & 1/3 of these testes atrophy.
40. In acute epididymo-orchitis the common organisms chlamydia trachomatis & N.gonorrhea.

Test yourself

1. Urinary incontinence affects more than (men - women)
2. UTI includes &
3. Renal colic is a stabbing pain radiating from to
4. Incomplete emptying suggests
5. Erectile dysfunction is commonly known as
6. 1/3 of male adolescents with mumps develop
7. Hesitancy means
8. Treatment of chlamydia?
9. Oliguria means
10. 2 lines of ttt of UTI are
11. Retention means
12. UTI is more common in (women/men)
13. Hesitancy is usually due to
14. Uvamin retard is used in ttt of
15. is the most common STI in men & is often asymptomatic
16. True incontinence (total lack of control) suggests Or
17. Polyuria may be due to
18. Prescribe for a case of urinary stone before the start of intervention?
19. Total protein excretion is usually of which albumin alone is
20. Causes of oliguria are
21. The most common causes are
22. Def. of erectile dysfunction
23. 4 tricks to aid micturition
24. Terminal dribbling usually indicates
25. Abnormal proteinuria is regarded when protein excretion >
26. is ch' by frequency, dysuria, urgency, haematuria, suprapubic pain
27. Treat a case of BPH?
28. Anuria is
29. 5 important causes of proteinuria?
30. Mention the scientific names:
Viagra
Cardura
Cialis
Levitra
31. Acute retention may be due to (4 causes)
32. Causes of urge incontinence

Answers

1. Women - men
2. Urethritis, cystitis, prostatitis & pyelonephritis
3. Loin to groin
4. Detrusor dysfunction or prostatic dse
5. Impotence
6. Orchitis
7. Difficulty in starting to micturate
8. R/Doxy-R 100 1x2x7 days
Or R/Zithrocin single dose
9. Excretion of < 300ml urine in 24 hrs
10. Drink plenty fluids
Abs as Septrin, Ciprofar, Cefotax, Ceporex, E-mox.
11. Not emptying the bladder, painful inability to pass urine
12. women
13. Bladder outflow obstruction due to prostatic dse or strictures
14. UTI
15. Chlamydia
16. A fistula () bladder & exterior or neurological condition
17. DM
DI
Chronic renal failure
Ingestion of large volume of water
Diuretics
18. R/Olfen amp. IM the R/Olfen 100 SR 1x3
R/Primperan amp. Iv or im
R/Cefaxone 1 gm vial 1x3
R/Epimag eff. (for Ca⁺² oxalate)
R/Urosolvine eff. (for urates) 1x3
R/Coliurinal eff. 1x3
19. < 50mg/24 hrs of which albumin alone is < 30mg/24hrs
20. Dehydration
Intrinsic renal dse

- Shock
obstruction
21. Epididymal cyst
Inguino-scrotal hernia
hydrocele
 22. Inability to attain & maintain an erection adequate for satisfactory sexual intercourse
 23. Privacy on hospital wards
Standing to avoid
Voiding to the sound of running taps
Voiding in a hot bath
 24. Prostate disease
 25. > 150mg/24hrs
 26. Cystitis
 27. R/Cardura 1mg قرص مساء
Or R/Proscar قرص مساء
 28. The absence of urine formation
 29. UTI
Orthostatic
GN
Fever
DM
 30. Sildenafil
Doxazosin
Tadalafil
Vardenafil
 31. UTI
Stones
Prostatic enlargement
Pressure on the bladder e.g late pregnancy
 32.
Over-activity of detrusor ms
Urinary infection
Bladder stones
Bladder cancer

تم فصل المسالك والله تعالى الفضل والمنة